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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,249	02/11/2004	Ji-Sook Kim	P57026	1106

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Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005

EXAMINER	
KARIKARI, KWASI	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,249	KIM ET AL.	
	Examiner	Art Unit	
	KWASI KARIKARI	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-26,28-33,35 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-26,28-33 and 35-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/13/2007 has been entered.

Response to Arguments

2. Applicant's arguments, filed on 12/13/2007 with respect to claims 21-26, 28-33 and 35-36 in the remarks, have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations added to claims 21-26, 28-33. See the rejection below of claims 21-26, 28-33 for relevant citations found in Cyr (U.S 6,223,055) and Bedingfield et al. (U.S. 20040110465) disclosing the newly added limitations.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21-26, 28-33 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cyr (U.S 6,223,055), (hereafter Cyr) in view of Bedingfield et al. (U.S. 20040110465), (hereinafter Bedingfield).

Regarding claim 21, Cyr discloses a system for operating wired and wireless phone services interconnectively, the system (wired and wireless system, see Fig. 1) comprising:

a private base station controller (pBSC) (in-building wireless base station 230) which is connected to a public switched telephone network (PSTN) (PSTN 101, see Fig. 1) and a private base station transceiver system (pBTS) (see col. 2, lines 3-8) and provides a mobile communication service to a plurality of mobile communication terminal (120) (see col. 2, line 62- col. 3, line 19; and col. 2, lines 3-9); and

a group exchange (see PBX 140, see Fig. 1) which is connected to the PSTN, and which a plurality of mobile communication terminals (items 120,150 and 120A-D, see Fig. 1) existing in a mobile zone as a management region (in-building, item 110, see Fig. 1) of the pBTS, and provides a public wired phone service () to the

mobile communication terminals, and provides a wired phone service to a wired terminal (phone 150 without associated wireless terminal, see col.3, lines 42-56) existing outside the mobile zone (see col. 3, line 20- col. 4, line 19; and col. 5, line 45- col. 6, line 13); but fails specifically to teach an assignment of respective virtual wired phone number and wherein, when receiving a request for an outgoing service from an internal mobile communication terminal, the group exchange changes a caller identification (CID) into the virtual wired phone number assigned to the internal mobile communication terminal, and calls a called terminal via the PSTN.

However, Bedingfield teaches the establishment and usage virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-40, 0045-48, 0055 and Fig. 2).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 22, as recited in claim 21, Cyr discloses the system, wherein the group exchange calls the mobile communication terminal (PBX rings wired and wireless extensions, see col. 3, lines 31-61); but fails to mention that the extension telephone numbers are respective virtual telephone numbers.

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-39, 0045-47 and 0055)

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 23, as recited in claim 21, Cyr discloses a multiple terminating services (simultaneous ringing, see col. 3, lines 55-61); but fails to discloses that a database for storing, for each arbitrary wired phone number, information indicating whether or not each of the wired phone number is a virtual phone number.

However, Bedingfield teaches a database for storing, for each arbitrary wired phone number, information indicating whether or not each said arbitrary of the wired phone number is a virtual phone number (see Pars. [0018 and 0047).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 24, as recited in claim 23, Cyr discloses the system, wherein the group exchange simultaneously calls the wired terminal corresponding to the wired phone number and a mobile communication terminal when the wired phone

number registered with the multiple terminating service and is called (simultaneous ringing, see col. 3, lines 55-61).

Regarding claim 25, as recited in claim 21, Cyr fails to disclose the system, wherein the pBSC comprises a database for storing said each respective virtual wired phone number assigned to each of the mobile communication terminals and a mobile identifier number (MIN) of the mobile communication terminal to which said each respective the virtual wired phone number is assigned.

However, Bedingfield teaches wherein the pBSC comprises a database for storing said each respective virtual wired phone number assigned to each of the mobile communication terminals and a mobile identifier number (MIN) of the mobile communication terminal to which said each respective the virtual wired phone number is assigned (see Pars. [0018-19 and 0047).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 26, as recited in claim 21, Cyr fails to disclose the system, wherein the group exchange is connected to the PSTN through No. 7 signaling.

However, Bedingfield teaches connection between PSTN and No. 7 (= SSP and SCP connection with PSTN, see items 36, 38 and 46 in Fig. 2).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 28, as recited in claim 21, Cyr fails to disclose the system, wherein when receiving the request for the outgoing service from the internal mobile communication terminal, the pBSC checks a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests.

However, Bedingfield teaches wherein when receiving the request for an outgoing service from an internal mobile communication terminal, the pBSC checks a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests (profile includes subscriber service preference, see Par. [0017-18]).

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 29, as recited in claim 28, Cyr discloses the system, wherein the pBSC relays an outgoing call to the group exchange when the internal mobile communication terminal requests the private network service, and relays the outgoing call to the public land mobile network (PLMN) when the internal mobile communication terminal requests the public network service (see col. 4, lines 59- col. 5, line 7).

Regarding claim 30, Cyr discloses a method for operating wired and wireless phone services interconnectively, the method comprising the steps of:

assigning, by a group exchange (PBX), phone numbers to a plurality of mobile communication terminals existing in a mobile zone as a management region of a private base station transceiver system (pBTS) (PBX rings wireless and wired extension, see col. 3, lines 30-61);

providing, by the group exchange, a wired phone service to a wired terminal existing outside the mobile zone; and providing, by the group exchange, a public wired phone service to the mobile communication terminals by linking the mobile identifier numbers (MINs) of the mobile communication terminals, see col. 3, lines 30-61); but fails specifically to teach and assignment of respective virtual wired phone numbers and when the group exchange receives a request for an outgoing service from an internal mobile communication terminal, changing, by the

group exchange, a caller identification (CID) into the respective virtual wired phone number assigned to the internal mobile communication terminal, and calling a called terminal via a public switched telephone network (PSTN).

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-40, 0045-48 and 0055)

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 31, as recited in claim 30 Cyr discloses the method, wherein in the step of providing the public wired phone service, when the group exchange receives an incoming call through a public switched telephone network (PSTN), the group exchange calls the respective mobile communication terminal (col. 3, lines 20-61); but fails to teach virtual wired phone number.

However, Bedingfield teaches the establishment and usage of virtual telephone number in a wired and wireless system (see Pars. [0017, 0037-39, 0045-47 and 0055)

It would therefore have been obvious to one of the ordinary skill in the art to combine the teaching of Bedingfield with the system of Cyr for the benefit of achieving a system that allow the tracking of telephone usage time of devices with virtual directory number (see Bedingfield, Pars. [0055]).

Regarding claim 32, as recited in claim 30, Cyr further discloses the method further comprising the step of simultaneously calling, by the group exchange, the wired terminal corresponding to the wired phone number and the mobile communication terminal when the wired phone number registered with the multiple terminating service and is called (simultaneous ringing, see col. 3, lines 55-61).

Regarding claim 33, as recited in claim 32, Cyr further discloses the method comprising the step of rerouting, by the group exchange, an incoming call to one of a public switched telephone network (PSTN) or a public land mobile network (PLMN) when the called wired terminal and the mobile communication terminal make no response (col. 3, lines 20-61).

Regarding claim 35, as recited in claim 30, Cyr further discloses the method comprising the step of, when a private base station controller (pBSC) receives a request for an internal service from an outgoing mobile communication terminal, checking, by the pBSC, a service type identifier defining which one of a private network service and a public network service the internal mobile communication terminal requests (col.

Regarding claim 36, as recited in claim 35, Cyr further discloses the method further comprising the steps of: relaying, by the pBSC, an outgoing call to the group

exchange when the internal mobile communication terminal requests the private network service; and relaying, by the pBSC, the outgoing call to a public land mobile network (PLMN) when the internal mobile communication terminal requests the public network service (col. 3, lines 20-61; and col. 4, line 46- col. 5, line 64).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is 571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Charles Appiah* can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kwasi Karikari
Patent Examiner.
02/27/2008

Rafael Perez-Gutierrez
Supervisory Patent Examiner
Technology Center 2600
Art Unit 2617
2/20/08